

**City Of Milwaukee**  
Department Of City Development  
BID DESK, Second Floor  
809 N. Broadway, Milwaukee, Wisconsin 53202

**INVITATION TO BID**

Commissioner of Department of City Development  
Phone: 414-286-5800

OFFICIAL NOTICE NO. 57317

Sealed bids for the work, material, labor, and services hereinafter described will be received at the Department of City Development BID DESK, located on the second floor at 809 N. Broadway, Milwaukee, Wisconsin 53202, no later than October 26, 2011 at 11:00 A.M.

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**IMPORTANT**

This bid is your offer to perform or supply the subject matter under "DESCRIPTION" below according to the terms and conditions set forth in this Invitation to Bid, Specific Official Notice No.57317, General Specifications, Detailed Specifications, the Scope of this particular project, and the proposed contract..

Your bid must meet the Detailed Specifications and the Plans for this particular project.

You must agree to comply with all applicable requirements of the Americans with Disabilities Act of 1990, 42 U.S.C. Section 12101, et seq.

The bid must be signed as set forth in the General Specifications and must comply with all the requirements therein set forth, or it will not be considered. If submitted by a corporation, the bid proposal must bear the corporate seal.

Bid security hereinafter specified must be submitted with your bid. If a bid bond is used, it must be sealed by the bonding company and be accompanied by an affidavit of no interest and a copy of a power of attorney. Bonding agents must be licensed to do business in the State of Wisconsin.

Bids received after the date and the time above specified will not be opened and read and will be deemed rejected.

**NOTE:** Also read the General Official Notice to Contractors, General and Detailed Specifications and the Scope of this particular project.

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DESCRIPTION **Roofing Services**  
**3402 West St. Paul**  
**Housing Infrastructure Preservation Program**  
**Milwaukee, WI**

DETAILS OF SPECIFICATIONS: dated October 13, 2011

CITY OF MILWAUKEE  
SPECIFIC OFFICIAL NOTICE NO. 57317

FOR: **Roofing Services**  
**3402 West St. Paul**  
**Housing Infrastructure Preservation Program**  
**Milwaukee, WI**

The EBE Requirement for this Project is: 0%  
The Residency Requirement for this Project is: 40%  
The Apprenticeship Requirements for this Project are: N/A

Liquidated damages per diem: \$75.00

Time for Completion: All work to be completed within 14 days after receipt of the Notice to Proceed letter

BID SECURITY REQUIRED: BOND, CERTIFIED CHECK, CASHIER'S CHECK, OR CASH TO ACCOMPANY BID: 10% OF CONTRACTOR'S BASE BID.

DETAILED SPECIFICATIONS: October 13, 2011

THE SUCCESSFUL CONTRACTOR SHALL FURNISH A PERFORMANCE BOND AND A PAYMENT BOND IN THE AMOUNT OF 100% OF THE BID WITH EACH EXECUTED CONTRACT.

NOTE: BIDS WILL BE OPENED AND PUBLICLY READ AT THE **OFFICES OF THE DEPARTMENT OF CITY DEVELOPMENT ON WEDNESDAY, October 26, 2010, at 11:00 A.M.**

Copies of the Bid Package may be obtained at the Department Of City Development BID DESK, Second Floor 809 N. Broadway, Milwaukee, Wisconsin 53202 or free of charge or via the Internet at:

<http://city.milwaukee.gov/Projects/RequestsforProposals.htm>

THE CONTRACTOR SHALL SPECIFICALLY NOTE THE RESIDENCY FORMS FOR THIS PROJECT. IF THE FORMS ARE NOT FILLED OUT PROPERLY, IT WILL BE CAUSE FOR REJECTION OF THE BID.

Contractor must comply with all provisions of the CITY OF MILWAUKEE OFFICIAL NOTICE TO CONTRACTORS, published above.



FOR: **Roofing Services**  
**3402 West St. Paul**  
**Housing Infrastructure Preservation Program**  
**Milwaukee, WI**

**ALL BIDS MUST BE TYPED OR PRINTED**

**BASE BID:**

Each Bidder shall submit a lump sum price to include the labor, equipment and materials necessary and required to perform the roofing services, in accordance with the bid documents and specifications herein

**LUMP SUM**

(Bid in figures) \$ \_\_\_\_\_ LUMP SUM

(Bid in words) \$ \_\_\_\_\_ LUMP SUM

**\*\*\* IMPORTANT NOTICE \*\*\***

**ALL BID PRICES MUST BE ENTERED IN WORDS AND IN NUMERALS. IN CASE OF VARIATION BETWEEN THE TWO, THE WORDS WILL PREVAIL.**

**IN ADDITION, IF THERE IS A DISCREPANCY BETWEEN THE TOTAL INDICATED IN THE PROPOSAL AND THE AMOUNT OBTAINED BY ADDING THE PRODUCTS OF THE QUANTITIES TIMES THE UNIT PRICES, THE LATTER SHALL GOVERN. ANY ERRORS FOUND IN THE TOTAL INDICATED SHALL BE CORRECTED AND THE CONTRACT AWARD SHALL BE MADE TO THE LOWEST RESPONSIBLE BIDDER BASED ON THE CORRECTED TOTAL.**

**IF DOUBT EXISTS AS TO WHAT IS BID, THE BID WILL BE REJECTED.**

## ACKNOWLEDGEMENTS PAGE

### EMERGING BUSINESS ENTERPRISE, RESIDENT PREFERENCE AND APPRENTICESHIP PROGRAM REQUIREMENTS

In submitting this bid, the bidder acknowledges, understands and agrees that submission of a bid shall commit the bidder to comply with the City's requirements as outlined in the Emerging Business Enterprise (EBE) Program the Resident Preference Program and the Apprenticeship Program provisions. The bidder also agrees to comply with the specific requirements as follows:

The bidder's commitment for EBE participation on this project is 0 %

The bidder's commitment for Resident Preference Program Participation on the project is 40 %

The bidder's commitment for Apprenticeship Program participation on this project is:

0 Apprentice(s) from the following trade(s) are to be employed:

In submitting this bid, the bidder understands that the Commissioner of Department of City Development reserves the right to reject any and all bids. If written notice of the acceptance of the bid is mailed, telegraphed, or delivered to the undersigned within forty-five (45) days after the opening thereof, the undersigned agrees to execute and deliver the contract in the prescribed form (contract form on file in the office of the Commissioner of Department of City Development (DCD)) and furnish the required performance and payment bond, and to meet such insurance requirements as may be required, within ten (10) days after the receipt of the official notice of award.

This bidder understands that if they are the successful bidder and the contract is awarded, that failure to execute and to deliver the contract or to furnish the required insurance and the required security within ten (10) days after receipt of the official notice of award or such extension thereto as the Commissioner only may deem reasonable, the City, in addition to any other legal or equitable remedy which it may have, may annul the award and notice of award, and the bid security of this bidder will be forfeited.

Attached hereto is an affidavit in proof that the undersigned has not colluded with any person in respect to this bid or any other bid for the contract for which this bid is submitted.

We acknowledge the receipt of Addenda \_\_\_\_\_ to \_\_\_\_\_ inclusive.

Bidder assures the City and acknowledges that the Official Notice, the Invitation to Bid and Bid, General Specifications, Detail Specifications, the Scope of this particular project and Addenda's, if any, of this particular project have been read and has a full understanding of the provisions therein.

SIGNATURE PAGE

Rev. 7/2010

Official Notice No. 57317

In signing and submitting this bid, the bidder assures the City of Milwaukee that the Official Notice, Notice to Bidders, the Invitation to Bid and Bid, General Specifications, Detail Specifications, the Scope of this particular project and Addenda's, if any, of this particular project have been read and understood and that the furnishing of the subject work, material, labor and services is under bidder's control. If the bidder's performance is contingent upon the acts of another party, the bidder assures that they have the necessary commitments to complete the contract which may be awarded.

Submitted by \_\_\_\_\_  
Name of Bidder (person, firm or corporation)

Telephone No. \_\_\_\_\_  
Fax No. \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_  
(City, State, Zip Code)

Signed per \_\_\_\_\_  
(Manual signature required)

Official Capacity \_\_\_\_\_



**MUST BE SIGNED**

BID DATED \_\_\_\_\_ EBE Contractor Yes \_\_\_\_\_ No \_\_\_\_\_

If a Corporation, answer the following:

Incorporated under laws of what state? \_\_\_\_\_

If a foreign corporation, are you licensed to do business in Wisconsin? \_\_\_\_\_

SWORN STATEMENT OF BIDDER  
AS REQUIRED BY  
SECTION 66.0901 (7) WISCONSIN STATUTES

I, being first duly sworn at \_\_\_\_\_  
(City, State)

on oath state on behalf of said bidder, that I have examined and carefully prepared this proposal from the plans, specifications, and the other contract documents and have checked the same in detail before submitting this proposal; and this sworn statement is hereby made a part of the foregoing proposal.



**MUST BE SIGNED**

Signature \_\_\_\_\_

\_\_\_\_\_  
(Title, if any)

Subscribed and sworn to before me this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

Notary Public, \_\_\_\_\_ County

State of \_\_\_\_\_

\_\_\_\_\_  
(Notary Signature)

My commission expires \_\_\_\_\_

NON-COLLUSION AFFIDAVIT

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.

\_\_\_\_\_, being first duly sworn, deposes and says that:

(1) He is \_\_\_\_\_  
(owner, partner, officer, representative, or agent)

of \_\_\_\_\_, the Bidder that has submitted the attached Bid;

(2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly with any other Bidder, firm, or person to submit a collusive or sham Bid in connection with such Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm, or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit, or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against the Commissioner of Department of City Development or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Check One) \_\_\_\_\_  
Signature of

\_\_\_\_\_ Bidder if the bidder is an individual;

\_\_\_\_\_ Partner if the bidder is a partnership;

\_\_\_\_\_ Officer if the bidder is a corporation.

Subscribed and sworn to before me this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Signature

My commission expires \_\_\_\_\_, 20\_\_\_\_\_.

**City of Milwaukee**  
**Department of City Development**  
**Residents Preference Program Provisions**

I. General

- A. In accordance/recognition with Chapter 309 of the Milwaukee Code of Ordinances, residents preference hiring is required for all construction contracting activities of the Department of City Development. The ordinance requires that 40% of WORKER HOURS worked on a DPW contract be performed by UNEMPLOYED or UNDEREMPLOYED RESIDENTS of the City, except in special cases where the Commissioner of Department of City Development determines there is sufficient reason to impose lesser levels of participation. Further, the Commissioner of Department of City Development may increase the percentage of RESIDENT worker participation to more than 40% on specific contracts. For this contract, bidders are required to show that a minimum 40% of WORKER HOURS will be performed by UNEMPLOYED or UNDEREMPLOYED RESIDENTS of the City. Up to one-third of required worker hours may be achieved by documenting the use of UNEMPLOYED or UNDEREMPLOYED RESIDENTS on projects undertaken by the contractor where such compliance is not required, or by hiring UNEMPLOYED or UNDEREMPLOYED RESIDENTS on a full-time permanent basis for non-construction job categories connected to the project. Such adjustments must be proposed in an affidavit on a form provided by the department setting forth the facts upon which the request for adjustment is based.
- B. The contractor, prior to commencing work, shall submit an affidavit (Form I) for proof of residency for all employees utilized by the contractor and subcontractors to meet the Residents Preference Program requirements, stating that each employee is either UNEMPLOYED or UNDEREMPLOYED and is a RESIDENT of the City. The contractor shall prepare and submit accurate and timely resident utilization forms and reports to the Department of City Development. Time Reports shall be submitted within ten (10) days following completion of work, or every three months, whichever comes first. The reports shall identify the name, address, race, gender, work classification, wage rates and hours worked of all employees utilized on the contract by the contractor and all subcontractors. Failure to submit the required forms and reports to the Department of City Development may result in disqualification of future bids, delay of payments, or other appropriate sanctions. Final contract payments will not be made until the summary of hours worked on the back of the Prime Contractor's Affidavit of Compliance is completed and on file with the Department of City Development.
- C. During the performance of this contract the Department of City Development reserves the right to conduct compliance reviews. If the contractor is not in compliance with the specifications, the Commissioner of Department of City Development will notify the contractor in writing of the corrective action that will bring the contractor into compliance. If the contractor fails or refuses to take corrective action as directed, or if the contractor, prime or sub, submits any documents which contain any false, misleading, or fraudulent information, or if the contractor or subcontractor fail to comply with this ordinance, the Department of Department of City Development may take one or more of the actions listed below.
1. Withhold payments on the contract.
  2. Terminate or cancel the contract, in whole or in part.
  3. Consider possible debarment of the contractor from bidding for a period of up to two years.

4. Any other remedy available to the City at law or in equity.
- D. The penalty for any person, firm, or corporation knowingly engaging in fraud, misrepresentation, or in any attempt directly or indirectly, to evade the provisions of this ordinance by providing false, misleading, or fraudulent information shall, upon conviction, forfeit not less than \$1,000 or more than \$5,000 together with the costs of prosecution and, upon default of payment, shall be imprisoned in the county jail or house of correction not to exceed 90 days, or until the forfeiture costs are paid.

## II. Definitions

- A. RESIDENT – A person who maintains his or her place of permanent abode in the City of Milwaukee. Domiciliary intent is required to establish that a person is maintaining his or her place of permanent abode in the City. Mere ownership of real property is not sufficient to establish domiciliary intent. Evidence of domiciliary intent includes, without limitations, the location where a person votes, pays personal income taxes, or obtains a driver's license.
- B. UNEMPLOYED or UNDEREMPLOYED – a RESIDENT that has worked less than 1,200 hours in the preceding 12 months or has not worked in the preceding 30 days or, regardless of employment status, has household income at or below the federal poverty guidelines as adjusted by the Wisconsin Department of Public Instruction to define eligibility for reduced lunch in public schools. A RESIDENT will continue to qualify as unemployed or underemployed for five (5) years from the date he or she first participates in a contract under Chapter 309. If a RESIDENT becomes an apprentice for a contractor or becomes a participant in an on-the-job training program as determined by the City immediately after or in the course of performing on a particular construction contract, he or she shall continue to qualify as unemployed or underemployed for a period not exceeding 5 years from the date the person became an apprentice or participant in such on-the-job training program.
- C. WORKER HOURS – means the total hours worked on a construction contract by skilled and unskilled construction trade workers, whether those workers are employed by the contractor or any subcontractor. In determining the total worker hours to be furnished at a construction site, the number of hours devoted to all tasks customarily performed on a construction site shall be included, whether or not such tasks are performed on the construction site. "Worker hours" includes work performed by persons filling apprenticeships and participating in on-the-job training programs and excludes the number of hours of work performed by all non-Wisconsin residents.

## III. Residency Utilization Requirements

- A. The contractor shall utilize UNEMPLOYED or UNDEREMPLOYED RESIDENTS of the City in a minimum amount equal to the percentage of the WORKER HOURS stated in paragraph IA above.
- B. The contractor, by signing and submitting a bid, certifies that it understands the provisions of Chapter 309 and knows of and intends to comply with them, and shall ensure that all subcontractors are also informed.
- C. The contractor shall maintain, and shall ensure that all subcontractors maintain, personnel records listing the name, address, race and gender of all employees utilized for this contract and any records demonstrating that the employees utilized by the contractor in meeting the residency requirements are actual residents of the City. These records

shall be maintained for seven (7) years after the contractor has received final payment under the contract and shall be made available to the Commissioner of Department of City Development upon reasonable notice.

- D. Compliance with these residency requirements is an element of bid responsiveness. Failure to meet the specified residency requirements will render the bid unresponsive, and the Commissioner of the Department of City Development may then recommend the award to the next apparent low bidder.
- E. The City recognizes the following three organizations which can be contacted for access to trained or qualified workers from the City. Other organizations or sources of qualified RESIDENTS can be used at the bidder's discretion.
  - 1. Esperanza Unida (EU), located at 1329 West National Avenue, Milwaukee, WI 53204. Telephone number 414-671-0251 Ext. 125, fax number 414-383-7392.
  - 2. Milwaukee Urban League, located at 435 West North Avenue, Milwaukee, WI 53212. Telephone number 414-374-5850 Ext. 103, fax number 414-374-1995.
  - 3. Big Step, located at 3841 West Wisconsin Avenue, Milwaukee, WI 53208. Telephone 414-342-9787, fax number 414-342-3546.
- F. If the prime contractor has problems in meeting the residency requirements or if any other problems relative to residency participation arise during the completion of this project, the prime contractor shall immediately contact the Commissioner of the Department of City Development.
- G. Right to Appeal – All contracts awarded under ss. 7-14-2 and 7-22 of the City Charter shall be awarded by the Commissioner of the Department of City Development to the lowest responsible bidder determined in accordance with any applicable City ordinances relating to the participation of Emerging Business Enterprise Programs or requiring participation of City RESIDENTS. Following the opening of any bid where the Commissioner has considered compliance with such City ordinances, the Commissioner shall publish in an official City newspaper his or her determination as to the lowest responsible bidder. Any bidder who objects to the determination based on the consideration of such City Ordinances, may appeal the recommendation by filing a written appeal with the Commissioner within five (5) working days of the date of publication. The appeal shall state the specific objection to the determination, including supporting documentation, and specify an alternative determination. Any appeals that do not conform to this section shall not be considered. The Commissioner shall schedule a hearing before the Public Works Contract Appeals Committee which shall be comprised of the chair of the Economic Development Committee or his or her designee and a member of the Economic Development Committee selected by the chair and the Director of Administration or his or her designee to be held within five days of receipt of the appeal. The Public Works Contract Appeals Committee shall have the authority by majority vote to affirm or set aside the determination of the Commissioner and their decision in this regard shall be final. In the event that a timely appeal meeting the requirements of this paragraph is not filed, or the Committee affirms the Commissioner's determination following a timely appeal, the Commissioner shall make an award in accordance with his or her determination.

\_\_\_\_\_  
Contractor Name

\_\_\_\_\_  
Contract No.

**Employee Affidavit**  
**Residents Preference Program**

I certify that I maintain my permanent residence in the City of Milwaukee and that I vote, pay personal income tax, obtain my driver's license, etc. at \_\_\_\_\_, Milwaukee, WI \_\_\_\_\_  
(Address) (Zip Code)

**Residency status:**

To verify my resident status, attached please find the following (check one)

- \_\_\_\_\_ Copy of my voter's certification form.
- \_\_\_\_\_ Copy of my last year's Form 1040.
- \_\_\_\_\_ Copy of my current Wisconsin Driver's License or State ID.
- \_\_\_\_\_ Copy of Other (i.e., Utility bill, Lease, etc.)

**AND**

**Unemployment status:**

I certify that I have been unemployed as follows: (Check those that apply)

- \_\_\_\_\_ I have worked less than 1,200 hours in the preceding 12 months.
- \_\_\_\_\_ I have not worked in the preceding 30 days.

**OR**

**Underemployed status:**

\_\_\_\_\_ I certify that based on the attached chart (Income Eligibility Guidelines), I am underemployed.

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Sign Name

\_\_\_\_\_  
Social Security Number

\_\_\_\_\_  
Home Telephone Number

Subscribed and sworn to me this \_\_\_\_\_ day

Of \_\_\_\_\_, \_\_\_\_\_ A.D.

My Commission Expires \_\_\_\_\_.

\_\_\_\_\_  
Notary Public Milwaukee County

**Income Eligibility Guidelines  
July 1, 2011 thru June 30, 2012**

Eligibility determination is based on household size and income. Total income must be at or below the amount in the table.

Household Size	Yearly	Monthly	Twice per Month	Every 2 Weeks	Weekly
1	20,147	1,679	840	755	388
2	27,214	2,268	1,134	1,047	524
3	34,281	2,857	1,429	1,319	660
4	41,348	3,446	1,723	1,591	796
5	48,415	4,035	2,018	1,863	932
6	55,482	4,624	2,312	2,134	1,067
7	62,549	5,213	2,607	2,406	1,203
8	69,616	5,802	2,901	2,678	1,339
9	76,683	6,391	3,196	2,950	1,475
10	83,750	6,980	3,491	3,222	1,611
11	90,817	7,569	3,786	3,494	1,747
12	97,884	8,158	4,081	3,766	1,883
For each Additional Household Member Add	7,067	589	295	272	136

Source: Wisconsin Department of Public Instruction School Nutrition Programs

## NOTICE TO CONTRACTORS

**PLEASE NOTE:** Effective December 28, 2005, the City of Milwaukee adopted an ordinance relative to the disclosure of participation in or profits derived from slavery by contractors. All contractors awarded a contract on behalf of the City of Milwaukee, whether or not subject to a competitive bid, shall complete an affidavit prior to entering into the contract verifying that the contractor has searched any and all records of the company or any predecessor company regarding records of investments or profits from slavery or slaveholder insurance policies during the slavery era. The names of any enslaved persons or slaveholders described in those records must be disclosed in the affidavit.

The City shall make the information contained in the affidavit available to the public. Any contract between the City and a contractor which fails to provide the requisite affidavit or which includes material false information on such affidavit shall be rendered null and void. To reference Milwaukee Code of Ordinances 310-14, please see:

<http://cctv25.milwaukee.gov/code/volume3/ch310.pdf>

**CITY OF MILWAUKEE - DEPARTMENT OF DEPARTMENT OF CITY DEVELOPMENT**

**AFFIDAVIT OF COMPLIANCE**

**DISCLOSURE OF PARTICIPATION IN OR PROFITS DERIVED  
FROM SLAVERY BY CONTRACTORS**

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY/STATE/ZIP: \_\_\_\_\_

This affidavit of compliance will be the contractor's sworn statement that publicly discloses any slavery policies sold by any companies, or profits from slavery by industries or their predecessors who are doing business with the City of Milwaukee as defined in the Milwaukee Code of Ordinances 310-14.

Please check one:

\_\_\_\_\_ This business **was not** in existence prior to 1865.

\_\_\_\_\_ This business **was** in existence prior to 1865. I have searched any and all records for records of investments or profits from slavery and have found no such records.

\_\_\_\_\_ This business **was** in existence prior to 1865. I have searched any and all records for records of investments or profits from slavery and am disclosing the findings on the attached pages.

I hereby declare that all statements are true, accurate and complete as of the date furnished to the City of Milwaukee.

AUTHORIZED SIGNATURE: \_\_\_\_\_

PRINTED NAME: \_\_\_\_\_

Subscribed to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

NOTARY PUBLIC \_\_\_\_\_ County, \_\_\_\_\_ State \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

PRINT NAME: \_\_\_\_\_

(Seal)

My commission expires: \_\_\_\_\_

Ref: slaverydisclosureaffidavit

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*Specifications*

**Department of Department of City  
Development  
Official Notice #57317**

**Roofing Services  
3402 West St. Paul  
Housing Infrastructure Preservation  
Program  
Milwaukee, WI**

**Technical Specifications**

## **OVERVIEW:**

All responders to this bid must be proficient in all forms of residential roofing. Bid responders must be able to do appropriate work on architecturally significant and historic homes. Roofing and gutter work includes but is not limited to:

- Roofing tear-off and re-decking.
- Flashing chimneys and walls and building chimney crickets or saddles where appropriate.
- Shingle application on large steep roofs.
- Shingle application on turret and tower roofs.
- Torch down roofing for flat roofs, porch decks and gable ends.
- Rubber membrane roofing for flat roofs and porch decks.
- Installation of gutter systems including half-round and quarter-round gutter systems.

## **I. INSTRUCTIONS TO BIDDERS**

A. **BID FORM:** Submit a lump sum price for the work as indicated and specified herein, complete in every respect. Bids will not be accepted in any form except on the bid form included with this project manual. The contractor must recognize and abide by the right of the Owner (City of Milwaukee) to accept or reject any or all bids in the best interests of the City.

B. **BID EVALUATION:** Lump Sum for Labor and materials shall include: overhead, Labor Insurance (which shall include Federal and State Unemployment Workers Compensation, and FICA Social Security Insurance and contributions paid by Employer Contractor for each employee), Sales Tax, Bonds, Property Insurance, Comprehensive General Liability Insurance, Industry Programs, other expenses, and profit on “Wage Rate” and/or “cost”.

C. **EXCLUSIVITY OF WORK:** The City reserves the right based on availability and need to acquire services outside this contract to best meet the needs of the City.

D. **CONTRACT AWARD:** The Commissioner of DCD will award the contract on the basis of the Lump Sum amount. The contract shall be awarded to the lowest responsible bidder whose bid complies with the bid specifications. The Commissioner reserves the right to reject all bids if it appears that the lowest bid for the work to be let is unreasonably high. The Commissioner further reserves the right to reject the bid of any bidder who is, in the judgment of said Commissioner, incompetent or otherwise unreliable for the performance of the work bid or who shall previously have willfully or negligently failed to complete any work or contract entered into with the City or any officer or department thereof or who shall have willfully or negligently failed to enter into a contract with satisfactory Surety for any work that shall have been previously awarded by said Commissioner. The Commissioner further reserves the right to disregard and reject any and all bids.

**E. SITE VISIT: All contractors shall visit the project specific site, consult project manual, be familiar with the work of other contractors and determine for himself all conditions affecting the work.**

Failure by a contractor to be familiar with the specific project shall not release him from any obligation under this contract to complete the work in strict conformity with the plans and project manual and all City, State and Federal Codes or regulations pertaining to the work.

F. **CONSTRUCTION START AND COMPLETION DATES:** The time allowed for completion is stated in the Specific Official Notice and shall start with the date on the Notice to Proceed which will be sent to the contractor following the signing of the contract. The time allowed includes the time required for fabricating and procuring material and doing the work at the building site.

G. BASE BID EXCLUSIONS: N.A. All work is to be performed under this contract.

H. ADDITIONAL PLANS/PROJECT MANUALS: The successful contractor will be responsible for furnishing all additional copies of plans, project manuals, addenda, etc., as may be needed by the contractor and subcontractors. Contractor shall have complete sets of plans and project manuals on the job site at all times. The City will cooperate by making originals available to the contractor/s printer of choice.

I. EXAMINE DOCUMENTS:

1. Before submitting a bid proposal, bidders should carefully examine the contract manual; fully inform themselves as to all existing conditions and limitations, including those of labor; and shall include in the bid proposal a sum sufficient to cover the cost of all items contemplated by the contract documents.
2. Each sub-bidder further represents that he is familiar with the scope of the proposed work to ascertain any obstacles that might be encountered and other matters and conditions relevant to this work.
3. Additional charges will not be as considered for work which, prior to bidding, could reasonably be inferred as appropriate by examination of the contract documents, and closely reviewing the work as indicated above.

J. DEPARTMENT OF PUBLIC WORKS GENERAL SPECIFICATIONS:

1. Provisions of the Department of Public Works General Specifications (“General Specifications”) dated January 31, 1992, and subsequent addenda, contained herein, except as may be modified or expanded upon in this project manual, shall apply to all contractors and subcontractors working on the project.( For a copy, please go to the following link and click on “General Specifications”  
[http://www.mpw.net/services/bids\\_home](http://www.mpw.net/services/bids_home) )
2. For the completion of this project, references to “Commissioner of Public Works” within the above mentioned General Specifications, shall be interpreted to mean “Commissioner of Department of City Development.”

**II. GENERAL REQUIREMENTS:**

A. BID GUARANTEE AND CONTRACT PERFORMANCE BOND:

No bid will be received unless a certified check or bank draft payable to the Department of City Development, or a satisfactory bid bond in the amount not less than ten percent (10%) of the bid, shall accompany each bid as a guarantee that if the bid is accepted, the bidder will execute and file the Agreement and a Performance Bond and Payment Bond in the amount 100% of the Bid amount within ten days after Notice of Award. If a bid bond is used, it must be sealed by the bonding company and be accompanied by an affidavit of no interest and a copy of a power of attorney. Bonding Agents must be licensed in the State of Wisconsin. In case the bidder fails to file such contract and bonds within the time set forth, the bid security shall be forfeited to the Department of City Development of the City of Milwaukee as liquidated damages.

B. INSURANCE

1. Before commencing work the Contractor/Vendor shall furnish the Department of City Development (DCD), for review and approval, evidence of the insurance requirements in the General Specifications.
2. The Contractor/vendor shall provide the DCD with Certificates of Insurance evidencing the above referenced coverage. The insurance carrier must be licensed to do business in the State of Wisconsin. The City shall be named as an additional insured with respect to liability coverage, except for the Professional

Liability. The Department of City Development shall be given thirty (30) days notice in advance of cancellation, non renewal, or material change in any insurance coverage. Failure to provide the insurance required shall permit the DCD terminate a Contract.

3. In addition, a notarized Affidavit of No Interest form must be completed and signed by the insurance agent who issued the Certificate of Insurance and submitted with the Certificate of Insurance, deposing that no officer, official or employee of the Department of City Development has any interest, directly or indirectly, or is receiving any premium, commission, fee or other thing of value on account of the sale or furnishing of said insurance certificate.

4. The contractor shall not permit the coverage to lapse and shall furnish evidence of coverage to the DCD.

5. The certificate holder shall be noted as:

City of Milwaukee  
809 N. Broadway, 2<sup>nd</sup> floor  
Attn: Purchasing/Contract Services,  
Milwaukee, WI 53202

C. Contractor shall comply with all applicable state, federal and local codes, and pay all permits, licenses and certificates, and other fees as required by the work including but not limited to the following:

1. Safety Regulations: All work shall be done in accordance with the safety requirements referenced in the International Building Code, as adopted and amended by the State of Wisconsin and OSHA. Also, Contractor shall provide all barricades necessary to protect neighbors during the construction activities.

2. Contractor shall comply with all rulings, regulations and laws of the following shall be complied with in the completion of this project, including:

International Building Code, as amended and adopted by the State of Wisconsin  
Plumbing and Drainage Codes of the City of Milwaukee  
Ordinances of the City of Milwaukee  
National Board of Fire Underwriters  
OSHA  
N FPA  
FAA  
NEC  
IEEE  
UL

3. The City of Milwaukee will provide the general building and occupancy permits.

4. Contractors shall obtain, from the City of Milwaukee Department of City Development and/or other government or private agencies, all special permits as may be necessary in their work.

5. Contractor shall obtain a **Home Improvement Contractor's License** to perform this work.

6. Contractors shall obtain all permits to occupy or work in the public way as may be necessary for their work.

7. Contractors shall notify the City and/or appropriate utilities when making utility connections as part of the project.

D. Contractor should prepare and submit to the Owner, for approval, a schedule fixing dates for the work to begin and end. . Efforts shall be made to perform all work during normal working hours unless otherwise specifically approved. If circumstances dictate overtime or holiday work the decision to direct work during non-normal working hours shall be by the DCD staff as assigned by the Commissioner of DCD. Contractor is cautioned to make every effort to protect and maintain it in a weathertight manner while executing the roofing work. The contractor will be held liable for any damage caused to the building(s) and ancillary structures, and/or injury to the occupants resulting from the execution of the work or from not exercising proper precautionary protective measures. Any cost of repair/replacement resulting from damages shall be at the contractor's expense.

E. Contractor shall furnish all labor and all materials as specified herein and/or required to complete the work. All materials shall be new unless otherwise noted. All labor shall be performed by persons qualified with at least 5 years of experience in the shingle roofing trade

F. INSPECTIONS:

1. DCD Staff, or designee, may provide daily inspection to verify compliance with contract documents, identify contractors and crews on the job, verify compliance with contract conditions (EBE, residency, wage requirements), and record job progress and conditions.

**2. Contractors shall arrange with the Department of Neighborhood Services/Construction Trades Division and permit issuing agencies for all code compliance inspections as required by all permits including, but not limited to, the general building and all special permits issued by that agency.**

**3. Contractors shall arrange with the appropriate City agency for compliance inspections, as required, for all permits including, but not limited to, curb and pavement cuts and patches, and public way occupancy and utility connections**

G. Liquidated Damages: \$75.00 per calendar day. Should the CONTRACTOR fail to complete the work by the completion date of the contract or within such extra time as may have been allowed for delay by extensions granted as provided in the Contract, the Contractor shall reimburse the Owner for the additional expense and damage for each calendar day, Sundays and legal holidays included, that the Contract remains uncompleted after the specified completion date. The said amount agreed upon is not a penalty but are liquidated damages for the loss to the Owner on account of expense due to the employment of engineers, designers, inspectors, and other employees after the expiration of the time of completion, and if applicable, expenses incurred as a result of the impact of the Contractor on other Contractors under this project or other contracts, and on account of the value of the operation of the works dependent thereon. The Owner shall have the right to deduct such damages from any amount due, or that may become due the Contractor, or the amount of such damages shall be due and collectible from the Contractor.

H. WORK BY OTHERS:

1. Project roles are defined as follows:

a. OWNER – The City of Milwaukee.

b. OWNER’s REPRESENTATIVE– Representative from the City of Milwaukee Department of City Development, or designee.

c. CONTRACTOR – The successful bidder of this contract.

d. CONTRACTOR’s REPRESENTATIVE – The CONTRACTOR’s Project Manager.

e. SUBCONTRACTOR(s) – Any lower-tiered CONTRACTOR to the CONTRACTOR.

2. The CONTRACTOR shall not obstruct or cause delay in progress of work by others on the Property. CONTRACTOR shall coordinate with others performing work at the property regarding access, material staging areas, and work schedules.

3. The CONTRACTOR shall coordinate all Work, or specifically identified portions of the Work, with the OWNER's REPRESENTATIVE to allow for entry to inside of the building, obtain direction for locating equipment and materials, and obtain prior approval from OWNER's REPRESENTATIVE for changes to the initial schedule

4. CONTRACTOR'S REPRESENTATIVE shall be experienced and shall be directly in charge of the installation, all staff, and staff contractors associated with this work.

#### I. SUPERVISION OF WORK:

1. Contractors shall furnish the services of an experienced foreman or superintendent.

2. He shall be constantly in charge of the installation of the work together with all subcontractors, skilled workers, helpers, and labor required to unload, transfer, erect, connect up, adjust, start, operate and test each system.

3. He shall be thoroughly acquainted with and be responsible for the various subcontractors' work so that it is properly coordinated and supervised to the satisfaction of the Commissioner of DCD or his representative.

#### J. INVOICING:

1. Pay applications to be submitted on a monthly basis. Applications shall include a summary of work occurring for previous month by unit cost.

2. Payments will be held if contract administrative requirements are not met, i.e. wages, EBE and/or RPP participation, or paper work for requirements are not up to date.

3. Contractor shall maintain individual invoices for each maintenance occurrence during previous month on a unit basis. These records must be submitted with monthly pay requests for request to be process.

K. WORK NOT INCLUDED: The City reserves the right to contract for other roof related services outside this contract. Nothing in these specifications shall be deemed to preclude this right the contractor shall not be entitled to compensation or -damages for such services rendered by others.

L. SCAFFOLDING: Scaffolding shall be provided and maintained by the contractors requiring same and shall be removed when no longer needed.

M. ELECTRICAL POWER: Contractor shall be responsible for providing their own power source

N. WATER: Contractor shall be responsible for providing their own water source

O. TOILET FACILITIES: Contractor shall be responsible for providing their own toilet facilities.

P. WEATHER PROTECTION: Contractor is also to furnish, install, and maintain a waterproof tarp that completely covers any area of the roof deck that may be exposed to prevent rain from entering the building. The tarp is to be securely fastened at the edges and secured against wind release.

### III. SCOPE OF WORK

A. SPECIFIC: See attached "Specific Scope of Roofing Work" for the roofing services required for this bid at the property located at **3402 West St. Paul, Milwaukee WI.**

B. GENERAL:

1. The installation of the roofing system shall be in accordance with this specification and the installation instructions printed by the manufacturer, as written on the back of each shingle bundle. Should the requirements of this specification conflict with those of the shingle manufacturer, the contractor is to notify DCD, but follow the shingle manufacturer instructions to ensure the availability of the required warranty coverage. However, where the shingle manufacturer's printed instructions offer options; e.g., the permitted use of nails or staples in the application of shingles, the contractor shall follow the requirements of this specification; i.e., the use of nails is mandatory.

2. The contract shall include all labor, materials and incidentals necessary to complete the work in a neat and acceptable manner-weather-tight in every respect--including, but not limited to, the following:

- a. Repairs to and/or replacement of deteriorated roof decking;
- b. Repairs to and/or replacement of damaged and deficient flashings; i.e., wall and valley flashings;
- c. Reset, repair and/or replacement of all associated roof flashings, including those located at chimneys, roof curbs, masonry walls, parapets, plumbing vents, etc.
- d. Tear-off existing roofing materials, site cleanup and hauling away, including all dump fees;
- e. Removal and replacement of all continuous ridge ventilators, where existent, with new prefinished aluminum, or shingle covered, continuous ridge ventilators;
- f. Installation of polystyrene attic rafter air vents (baffles), one between each truss/rafter space along eaves where none currently exist;
- g. Removal and replacement of deteriorated sections of gutters and downspouts, including replacement of missing components.
- h. Furnishing certificates of shingle manufacturer's warranty, and workmanship guarantee; and
- i. Other specific work as described herewith or required to complete the contract.

**Note:** *The following descriptions of work (Repair/Reroofing/Total Tear-off and Replacement) are not intended to indicate the specific locations or the extent of roofing work to be performed, but to identify those conditions where roofing work is required. Refer to the applicable sections of these specifications for determining the roofing materials and procedures to be used.*

#### C. REPAIR:

1. The term "repair" means the partial removal and replacement of a roofing system, or a section of roofing, or its components, as necessary: a) to eliminate or prevent roof leakage resulting from deteriorated, defective, missing, or improperly installed shingles, flashings, and/or roof accessories; or b) to remediate conditions of de-lamination and/or excessive warping of the wood deck.
2. Also included is the partial replacement necessitated by an act of God, such as wind and/or hail damage, where the scope of replacement is determined in conjunction with the property owner's insurance carrier.

#### D. REROOFING:

1. The term "reroofing" means the application of new shingles over existing shingles.
2. Existing shingles in their present "as is" condition may be reroofed only if none of the conditions cited in para.D.2.b. below are determined by the contractor to exist. If one or more of the conditions cited in par. D.2.b. exist, appropriate repairs must be made before the reroofing work is to commence.

#### E. TOTAL TEAR-OFF AND REPLACEMENT:

1. The term "total tear-off" means the complete removal of 100% of the shingles and underlayment so as to fully expose 100% of the existing roof deck.
2. Total tear-off and replacement is required, if:
  - a. The roof has been previously reroofed, i.e., two (2) layers of shingles already been applied; or
  - b. One or more of the following conditions exist over at least 25% of the roof's total surface or if, in the contractor's judgment, a total tear-off and replacement is less costly than the partial removal and repair:
    - 1) De-lamination, buckling and/or curling of the shingles;
    - 2) Misalignment horizontally a differential of shingle placement in excess of 10 inches between roof eaves and ridge;
    - 3) De-lamination of the roof deck panels; and/or
    - 4) Excessive buckling and/or warping of the plywood or pressed board roof deck--measuring 1/4 inch or more out of flatness in 4 feet--and unable to be secured flat and uniform relative to adjacent sheets using nominal 2" wood blocking placed within attic space and/or metal H-clips.

#### F. MATERIALS:

1. Furnish materials of the type, qualities, and characteristics specified. The specification of a trade name and catalog number is intended to establish quality, type, character, and operating characteristics of the material required. Materials by other manufacturers of equal specifications will be accepted, excepting as may be specifically stated otherwise.
2. Materials shall be delivered adequately protected, in merchantable condition, and in original unbroken packages if normally packaged. They shall be stored and handled so as to protect and maintain their

merchantable condition.

3. The Commissioner of DCD or his representative shall have the right to reject material not in compliance with the project manual, as well as damaged material, and the contractor shall remove such material from the construction site when and as directed.

#### G. EQUIPMENT:

1. Internal combustion engine and compressor shall be equipped with mufflers to reduce noise to a minimum and shall not be operated in enclosed areas without adequate ventilation.

2. All materials and work procedures used shall be in accordance with all air pollution control regulations in effect at the work site.

#### H. HAZARDOUS MATERIAL REQUIREMENTS:

1. The requirements set forth in the OSHA Hazard Communication Standard, 29CFR1 9101.1200, U.S. Environmental Protection Agency (EPA), and Wisconsin Department of Natural Resources in the Wisconsin Administrative Code NR600, shall be met by each on-site contractor.

##### a. Material Safety Data Sheets (M.S.D.S.):

1. All contractors, which may/may not include the City of Milwaukee, shall provide the M.S.D.S. for all hazardous chemicals to which any person may be exposed at the work site.

2. A master list will be kept in the office of the Project Supervisor/Construction Manager and updated as materials are delivered.

##### b. Container Labeling:

1. Each container of hazardous material at the work site shall be clearly labeled with:

(a) Identity of the hazardous chemical(s).

(b) Appropriate hazard warning(s).

(c) Name and address of the manufacturer.

2. The City of Milwaukee reserves the right to stop the work of a contractor if compliance with OSHA regulations is inadequate. Work will not proceed until all applicable safety and health procedures are implemented by the contractor.

#### I. MATERIAL STORAGE:

1. The storage areas shall be kept in good order and free of all rubbish and debris.

2. Coordinate the delivery and storage of all materials and equipment with the DCD staff as assigned by the Commissioner of DCD.

3. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling

and misapplication.

4. Store and protect products in accordance with manufacturers' instructions.
5. Store with seals and labels intact and legible.
6. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
7. For exterior storage of fabricated products, place on sloped supports above ground.
8. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.  
Prevent contact with material that may cause corrosion, discoloration, or staining.
9. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
10. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

#### J. ASBESTOS CONTAINING MATERIALS:

1. Comply with all City of Milwaukee ordinances, laws and regulations, State and Federal laws pertaining to handling and disposal of asbestos containing materials and OSHA regulations. The contractor is responsible to ascertain the extent to which these regulations affect the operations and comply therewith.
  - a. Asbestos Regulations of the U.S. Department of Labor .- Occupational Safety and Health Administration (OSHA): Comply with all regulations concerning the handling of asbestos containing materials as required by OSHA in the following reference:
    - Code of Federal Regulations Title 29, Part 1910 Section 1910.1001.
  - b. State of Wisconsin Department of Natural Resources:
    - Complete Notice of Demolition - 40 CFR 561.22(d) 10 days prior to commencement of work.
  - c. City of Milwaukee Common Council file No. 870856:  
Ordinance relating to regulations for building projects involving the disturbance of asbestos materials and establishing fees.
  - d. In addition to the above references comply with any additional regulations that may be in effect as of the date of commencement of this job.
2. Arrange for Project Inspector to be on the job when necessary.
3. Contractor is to be familiar with asbestos use in roofing materials, and shall be responsible to bring to the attention of this project manager any materials that are suspect.
4. City will be responsible for testing roofing materials for the presence of asbestos at the request of this contractor.
5. Contractor shall be familiar with the handling of asbestos roofing materials and handle and/or remove materials as required by repair and in accord with regulations.

## K. REVISIONS:

The right is reserved to make modifications to a reasonable extent as building conditions may require, or as may be required to conform to code rulings, or manufacturer's standards without extra cost to the City.

## IV. PRODUCTS

### A. ROOF SHINGLES:

#### 1. Mandatory performance requirements:

Class A fiber glass shingles shall be at least 300 lb. per square with self-sealing tabs coated with a modified bitumen type sealing compound capable of initial tab sealing at 60 to 70°F. Fiber glass shingles shall comply with U.L. Class A fire resistance, and ASTM: D3018 Type I (self-sealing); D3161 (wind resistance); D3462 (tear strength); and E108 (Class A fire resistance). Class C organic felt shingles shall be at least 300 lb. per square with self-sealing tabs coated with a modified bitumen type sealing compound capable of initial tab sealing at 60 to 70°F. Organic felt shingles shall comply with U.L. Class C fire resistance; U.L. 997 (wind resistance); ASTM D3161 (selfsealing); and CSA Standard A123.1-M1979.

2. Shingles shall be tested by U.L. and carry the specified fire and wind resistance labels as required by state and local codes--contractor is responsible for determining the minimum required shingle fire classification that is to be met, but which may be exceeded.

3. Shingles shall be architectural shingles. Organic felt shingles and fiber glass shingles impregnated with asphalt shall be coated on the top surface only with ceramic granules for a 5" exposure--color selected to match original shingles - or as directed by the Owner's Representative.

4. Shingles shall be warranted by the roofing manufacturer for a minimum of 25 years (2 years full coverage with the remainder pro-rated).

5. Shingles shall be offered in at least 3 different colors.

### B. RUBBER MEMBRANE AND TORCH DOWN ROOFING:

#### 1. Membrane

a. Install reinforced 60 mil EPDM securement strip at the perimeter conditions.

b. Position membrane without stretching over the substrate.

c. Allow the membrane to relax for approximately 1/2 hour before adhering.

d. Fold sheet in half longitudinally.

e. Fully adhere membrane to perimeter wood blocking with bonding adhesive. Membrane should extend up and over perimeter wood blocking and down 1" minimum onto the masonry. Fully adhere and nail 6" on center with cap nails on the same day installed.

f. Exposed corners of the perimeter wood blocking are to be flashed with uncured EPDM extending 1" down onto masonry and nailed at 6" on center with cap nails.

g. Install water cut-off at the end of the day's work using water cut-off mastic. Remove water cut-off mastic prior to beginning the next day's work.

h. Where applicable, fold EPDM field sheet into corners and create a "pig's ear" to eliminate excess material. Do not cut membrane. Adhere the pig's ear to the EPDM with splice adhesive.

i. Lap joints shall be a minimum of 5'-0" from roof drains. Seams shall be water lapped.

## 2. Lap Seam Tape Splices

a. Use manufacturer's weathered membrane cleaner to prepare all EPDM left open for 24 hours or more.

b. All field lap seams to be fabricated using tape adhesive.

c. Shingle lay the membrane 5" towards the roof drain.

d. Mark 1" to the low side of the overlapping sheet with a crayon.

e. Tack back the overlaying sheet with primer at 4"-0" on center.

f. Thoroughly clean and prime membrane, on both the overlap and underlap conditions. Allow to dry.

g. When washing and priming seam, be sure to wash lengthwise across the sheet, except at factory seams where you should wash in direction of factory seam to remove talc.

h. Install tape in proper alignment so it will protrude 1/4" to 1/2" beyond overlaying sheet.

i. Roll seam tape with 4" hand roller. Using hand pressure only is not acceptable.

j. Bring overlapping membrane over the top of the seam tape and release the paper.

k. Remove release paper by pulling at a 45 degree angle.

l. At seam tape laps, lap seam tape 1".

m. Untack the EPDM sheet and allow it to fall into place.

n. Following removal of the release paper, broom membrane into sealant tape.

o. Roll seam with 1-1/2" silicone roller at a 45 degree angle to the seam.

p. Membrane manufacturer must supply all products used in seams.

## 3. Lap Seam Cover Strips at Field Splice Intersections

a. Use manufacturer's weathered membrane cleaner to prepare all EPDM left open for 24 hours or more.

b. Following Owner's Representative's inspection of lap seam and the approval of same, wash the lap seam and EPDM membrane 6" to each side of the lap seam edge to remove any accumulated debris with clean water.

- c. Scrub the power washed lap seam and EPDM membrane with water and soap, using a scrub brush. Rinse thoroughly.
- d. Splice wash cleaned area. Prime 6" to each side of lap splice edge.
- e. Install splice adhesive across the primed membrane with either a roller or a paint brush.
- f. When the splice adhesive has been flashed off and is tacky to a finger-push test, install a 6" piece of self-adhering cured EPDM; center down lap splice edge.
- g. Thoroughly roll the self-adhering cured EPDM cover strip into place with a rubber roller.
  - 1) The salvaged adhesive edge of cover strip shall be thoroughly rolled into place.
  - 2) At cover strip laps and other membrane laps, carefully roll along covered edge.
- h. At the cover strip laps, tee-joints and other membrane location laps, install an uncured EPDM patch, large enough to extend a minimum of 3" beyond the lap in all directions. All patch corners are to be ROUNDED.
- i. Splice wash all edges of the cured EPDM cover strip and the uncured EPDM patches.
- j. Install a continuous bead of lap sealant over the edge of the cover strip and patches. Using an EPDM lap sealant screed, tool lap sealant into and over the edge of the cover strip and patching membrane.
- k. All lap seam cover strip applications are to be reviewed and approved by the Owner's Representative prior to the installation of the gravel ballast and/or concrete pavers.

#### 4. ROOF CURB AND BASE FLASHING

- a. Use manufacturer's weathered membrane cleaner to prepare all EPDM left open for 24 hours or more.
- b. Secure field membrane by screwing through metal anchor bar at 6" on center with approved screw fasteners. Where possible, install reinforced 60 mil EPDM securement strip previously fastened at 6" on center.
- c. Extend roofing membrane up wall or vertical surface or over wood blocking nailer, as indicated, and fully adhere to reinforcement strip vertical surface.
- d. Nail top of base flashing to wood nailer strip at 6" on center with 1" hard roofing nails with cap nails.
- e. All flashings and terminations shall be done in accordance with manufacturer's standard details or as detailed, whichever is more stringent.
- f. Use prefabricated, self adhering corners where possible.
- g. Cover anchor bar strips with EPDM flashing, extending above anchor bar and 6" out on horizontal roof surface.
- h. Apply the appropriate adhesive to the EPDM flashing, roofing membrane, and curb wall.
- i. After the lap cement dries to a point where it does not string or stick to the dry finger touch, roll base flashing into the adhesive with a steel roller to achieve positive bonding.

j. Clean edges of the completed EPDM flashing laps with an approved splice wash. Apply the lap sealant along both edges of the EPDM flashing and feather.

k. All vertical splice laps shall be covered with a 6" minimum cover strip of uncured EPDM. Extend 3" beyond horizontally on the flat.

l. Fold EPDM flashing into corners to create a "pig's ear" and eliminate excess material. Do not cut off membrane. Adhere "pig's ear" to EPDM.

m. Cover vertical surfaces of the end wall flashing with uncured neoprene flashing. Apply EPDM lap sealant to exposed edges of uncured neoprene flashing.

n. Terminate top of the flashing on masonry with 1/8" x 1" aluminum termination bar with manufacturer-approved expansion anchors at 6" on center.

1) Install water cut-off mastic between the masonry and EPDM, prior to installation of termination bar.

2) Cut EPDM flush to top of termination bar.

3) Install EPDM lap sealant to top of termination bar.

p. Cover termination bar with metal counterflashing. See Section 07621.

q. The 1/8" thick aluminum termination bar must be installed atop base flashing on day base flashing is installed.

r. Secure top of the flashing on plywood and wood blocking with aluminum nails at 4" on center. Seal top of the flashing with EPDM lap sealant installed same day as flashing.

## 5. Pipe Penetrations

a. Use manufacturer's weathered membrane cleaner to prepare all EPDM left open for 24 hours or more.

b. Flash pipe with premolded pipe flashings and self-adhering flange where installation is possible.

c. Where molded pipe flashings cannot be installed, use field fabricated flashing techniques using uncured EPDM.

d. Raise the pipe penetrations and roof vents to maintain a minimum 8" projection above the new roof surface. Verify all pipe penetrations extend to a minimum 8" above the finished roof surface.

e. Apply lap sealant at all flashing edges.

f. Provide water cut-off mastic between the pipe and molded pipe flashing.

g. Install stainless steel clamping ring around pipe at top of premolded pipe flashing.

h. Install EPDM lap sealant at top pipe boot and field flashing.

i. Premolded Pipe Boot:

1) When flashing must be cut to fit pipe penetration and top of premolded boot is below 8" above EPDM, pipe penetration is to be wrapped in uncured EPDM.

- 2) Top edge should be a minimum 8" above EPDM. Install premolded pipe boot.
- 3) Wrap all gas vent pipe penetrations with cured EPDM membrane following completion of field flashing.
- 4) Install stainless steel rain cap around pipe and over tip of field flashing.

#### 6. Roof Drains

- a. Remove existing roof drain dome, clamping ring, and any debris.
- b. Install base insulation and tapered insulation. Cut out at roof drain outlet.
- c. Originate tapered insulation at center of the drain.
- d. Seal between the membrane and drain flange with water cut-off mastic, as indicated in manufacturer's standard details.
- f. Set clamping ring and secure drain dome.

#### 7. Daily Seal

- a. Temporarily seal loose edges of membrane with water cut-off mastic or adhesive at end of the working day. Loose night seals are unacceptable.
  - 1) Surface shall be clean and dry.
  - 2) Apply water cut-off mastic at a rate of 100 lineal feet per gallon, 12" back from edge of the sheet onto exposed surface.
  - 3) If necessary, use a trowel to spread material in order to achieve complete seal.
- b. After embedding the membrane in night seal, check for continuous contact. Weight the edge, providing continuous pressure over length of the cut-off.
- c. When the work is resumed, pull sheet face free before continuing installation.
- d. Cut off and remove a portion of EPDM with water cut-off mastic on it.

#### 8. Field Quality Control

- a. Correct identified defects or irregularities.
- b. Require site attendance of roofing and insulation material manufacturers 1 time during installation of the Work.

#### 9. Cleaning

- a. In areas where finished surfaces are soiled by Work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.

b. Repair or replace defaced or disfigured finishes caused by Work of this section.

#### 10. Protection of Finished Work

a. Protect building surfaces against damage from roofing work.

b. Where traffic must continue over finished roof membrane, protect surfaces.

#### C. ROOF DECK:

1. Replacement panels shall be Structural 1, C-D Interior APA plywood with exterior glue of thickness to match existing. Partial replacement panels shall span over a **minimum** of 3 rafters or truss chords.

2. OSB or other wafer type sheathing is allowed so long as it complies with the roof shingle manufacturer's specifications and warranty.

#### D. ROOFING FELT AND WATERPROOFING UNDERLAYMENTS:

1. Roofing felt Underlayment: 15 lbs. per square non-perforated asphalt-saturated roofing felt--apply as the general underlayment conforming to ASTM D 226.

2. Waterproofing Underlayment: 40 mil thick, cold applied, self-adhering membrane composed of high strength polyethylene film coated on one side with a thick layer of adhesive consistency rubberized asphalt covered with release paper. Celotex "WinterGuard" or W.R. Grace "Ice and Water Shield", apply as the eaves protection and in the valleys. Apply membrane in strict accordance with the membrane manufacturer's printed instructions. **Do not apply asphalt felts over this waterproofing membrane.**

#### E. METAL FLASHINGS:

1. General flashing: 26 gauge prefinished galvanized or aluminized steel in a color as directed by the Owner's Representative.

2. Open valley flashing: 26 gauge - 32" wide (center inverted "V" or "W" break where metal flashing is exposed) prefinished galvanized or aluminized steel--lengths no less than 8 feet.

3. Step flashing: 26 gauge prefinished galvanized or aluminized steel 10" by 7" (or 2" wider than shingle exposure) bent for equal 5" vertical and horizontal legs. Step flashing at roof penetrations shall have 8" vertical leg and 4" horizontal leg.

4. Metal drip edge: Style "D" - 24 gauge, 1 1/8" roof edging and drip fabricated from bent prefinished aluminum. Drip edge shall be installed in longest lengths possible and not be installed in lengths shorter than 2 feet. **Note:** *Install metal drip over underlayments at rakes, and under waterproofing membrane at eaves.*

5. Miscellaneous flashing: preformed and special, as required to flash to and/or around other roof penetrations and/or walls, shall be of 26 gauge prefinished galvanized or aluminized steel. Soil stack flashings of 2 1/2 lb. sheet lead or preformed polyvinyl shall be provided to replace defective flashings.

#### F. CEMENTS AND SEALANTS:

1. Asphalt plastic roofing cement as recommended by roofing material manufacturer. Asphalt primer (cleaner/bonding agent) required at all masonry prior to applying cement. **Note:** *Do not place asphalt roofing cement in contact with waterproofing membrane underlayment at eaves or in valleys.*

2. Shingle tab cement as recommended by shingle manufacturer for additional shingle securement on steeper sloped roofs and as sealant on any exposed nail heads.

3. Sealant: Tremco "Dymonic" urethane caulk, or equal

#### G. FASTENERS:

1. Nails shall be used in all cases for shingle application, or any substitution and use of staples thereof will constitute sufficient reason for rejection of the total installation. Nails, hot dipped galvanized or aluminum of 11 or 12 gauge, barbed or deformed shank with 3/8" to 7/16" diameter heads. Nails shall be 1 1/4" to 1 3/4" long to fully penetrate through a plywood deck, at least 1/8" (rehab roofs with 1x, or greater thickness, wood decks--use nails of sufficient length for full 3/4" penetration into wood).

2. Use of staples for shingle application is not permitted. Staples using a pneumatic or hammer gun is permitted in the application of underlayment felts, the building-up of repair areas and the flattening of existing curled/warped shingles, when either or both of which precede reroofing work. Use four (4) fasteners (nails) per shingle with the following exceptions: roofs which experience high winds or are considered to be a steep slope roofs will require six (6) fasteners per shingle placed in accord with NRCA and the shingle manufacturer's installation guidelines, or as otherwise recommended by the shingle manufacturer to maintain product warranty.

#### H. RIDGE VENTILATORS:

1. "Multi-pitch Filtervent" manufactured by Air Vent, Inc. (or equal), roll formed .032" prefinished aluminum or of durable molded high-impact co-polymer plastic (color fast) flexible but resists denting or cracking, net air flow 12 sq. inches (min.) per lineal foot, with weather filter to protect against infiltration of moisture, dust and insects. Provide as required manufactured components for ventilation at roof/wall junction, and shed roof peak conditions, etc. Factory finished in dark brown or black to blend with the roof shingle color.

#### I. RAFTER VENTS:

1. "Propervent/2", manufactured by Construction Products Division (or equal), semi-rigid polystyrene attic rafter vents. Staple to underside of roof sheathing at every truss space. Replacement of existing rafter vents is not required.

### V. APPLICATION PROCEDURES

#### A. PREPARATION:

1. Inspect all existing roof surfaces for conditions of loose, curled, lifted, buckled (warped) or broken shingles; loose, damaged or missing flashing; loose or protruding nails and/or staples. Based on the intended scope of work, make all repairs necessary to correct conditions in a manner acceptable to the roofing materials manufacturer and good roofing practices.

2. Inspect all existing roof trim boards and roof deck for loose or split members, or members that show signs of de-lamination, deterioration, rotting, or excessive warpage or splitting. Re-nail loose trim boards and decking, and repair or replace same where any condition of splitting, de-lamination, rotting, or warpage is excessive.

3. Inspect all masonry, at its juncture with the roof, for required flashing or counter-flashing replacement. Furnish and install as required and specified herewith.

4. Inspect all gutters and downspouts. Clean and/or replace, and realign as required for proper draining. Replace all missing gutter and downspout accessory components.
5. Inspect attic framing members, soffit and roof vents for abnormal or failing conditions. Identify and correct all noted deficiencies. Where replacement of existing ridge ventilators is required, inspect deck openings at ridge to ensure that the required 1 1/2" minimum clear opening is provided -- saw cut roof deck where required to provide the optimum clear opening.
6. Inspect attic for signs and location(s) of roof leakage to determine scope of required shingle, flashing, etc. replacement. Make all needed repairs.
7. Inspect attic for presence/absence of a rafter vent within every rafter/truss space and the lack of light along soffit length indicating clogged (closed) air passages. Clear passages and install a polystyrene rafter vent within every space where none exists.
8. Inspect operation of mechanical roof ventilators. Verify both the presence and proper operation of high temperature and humidistatic controls. Inform owner of any inoperative ventilator conditions and/or of the absence of controls.
9. During cold weather application of shingles, allow for expansion of shingles during warm temperatures to prevent buckling (appearance of fish-mouth). Conversely warm weather application of shingles require full contact at shingles butt ends.
10. General shingle installation requirements:
  - a. Head lap to be no less than 6", exposure 5" minimum.
  - b. Double shingles at eaves and cornices. Provide specified head lap and lay shingles to an even line with joints breaking.
  - c. Full shingle to receive at least four (4) nails; 1" from each end and one (1) nail about 5" on each side of center cut-out.
  - d. Extend shingle beyond metal drip edge 1/4" along eaves and beyond metal edging at the rake. Cutting off excess shingle material flush with metal edging is not permitted and will be just cause for rejection of work.

## B. REPAIR APPLICATION PROCEDURES:

1. Where partial removal of existing roofing is required to accommodate limited shingle replacement, remove all shingles within the affected area(s). If leaking has occurred within the affected area(s), overlay new 15 lb. felts over existing felts--cement all laps, edges, and ends. Install new shingles matching the composition, color and tab alignment of the existing shingles.
2. Where excessive deterioration of eaves construction, caused by ice dams, is found, and/or where reported leaks have been occurring along interior surfaces at exterior walls, the following method of eaves flashing shall be provided:
  - a. Remove existing shingles starting at the eaves edge then proceed upward to a line parallel to and at least 24" past the inside face of the exterior wall. Cut the existing felt underlayment along a line 18" past the inside face of the exterior wall- -this will provide a minimum 6" wide strip (flap) of existing felt underlayment exposed below the remaining shingles. Remove the felt underlayment starting from the cut

line down to eaves to expose wood deck. Temporarily fold back the 6" flap of exposed felt underlayment over the remaining shingles directly above.

b. Apply the self-adhering waterproofing membrane directly to the bare (exposed) wood deck. Apply the membrane parallel to the eaves starting from the bottom edge of the deck--overlapping the metal drip edge installed along the eaves—then continuing upward to a line parallel to and at least 24" past the inside face of the exterior wall. Lower the previously folded back 6" flap of existing felt underlayment, overlapping the newly applied membrane approximately 6". Using a non-solvent based cement, continuously cement along the resultant overlap and all end laps to ensure a waterproof installation. Apply metal drip edges over the underlayments along each rake.

c. Apply new shingles matching the composition, color, and tab alignment of the existing shingles.

1. Where total removal of old shingles is not required, apply new shingles directly over existing shingles. Where partial removal of old roofing is required to make deck or flashing repairs, apply asphalt underlayment felt over roof deck adequately lapping all edges of the underlayment. Fill-in area with reclaimed or new shingles to raise repaired area up to level of adjoining roof surfaces. Broom roof surfaces and valleys to remove all debris before commencing reroofing.

2. Underlayment felt shall be applied only over existing shingles at areas known to have leaked. Verify location(s) of leakage during inspection of attic.

3. The application of new shingles over existing shingles shall commence after required deck repairs, underlayment work and shingle patching have been completed. Based on the use of three-tab, square-butt shingles applied so that all cutouts are centered over the tabs in the course below, the following application guideline is provided:

**[Contractor is to make required lateral adjustments to avoid alignment of nailing points and ends of shingles between the new and the existing.]**

a. Starter Course: After removing 3" from the end of the first shingle, cut off tabs and upper portion of the shingle so that the remainder is slightly greater in width than the exposure at the first row of existing shingles at the eaves. Starter course shall abut upper course shingle and extend 1/4 inch beyond the metal drip edge at both eaves and rake. Set starter course (strip shingle) in full bed of asphalt plastic cement along eaves.

b. First Course: Cut off head of a full shingle as required (normally 2" when the existing shingle exposure is 5") so shingle fits tight to the butts of existing third course while extending 1/4 inch beyond the metal drip edge at the eaves and rake (the same as was required for the starter course). Start at rake with full width shingle.

c. Second through Fourth Courses:

- The SECOND course should be started with a shingle from which 6" have been cut.
- The THIRD course should be started with a shingle from which the entire first tab has been cut.
- The FOURTH course should be started with a one-half shingle.

d. Repeat application cycle every fifth course starting with a full-width shingle. Always place top edge of new shingle against butt end of existing shingles in course above.

e. **SPECIAL REQUIREMENT:** For steep slope roofs; i.e., where the roof pitch exceeds 45° or 12" per foot, secure each shingle with six (6) fasteners and apply a dab of shingle tab cement under each shingle tab

at the time each shingle is installed. Upon installing each shingle, press down each shingle tab to disburse cement to secure to underlying shingle.

### C. TOTAL TEAR-OFF AND REPLACEMENT APPLICATION PROCEDURES:

#### 1. Remove all existing roofing (shingles and underlayment felts).

a. Expose only that portion of the roof deck that is able to be repaired and recovered with 15 lb. asphalt felt underlayment before leaving the project at the end of the work day. Remove shingles starting at ridge working downward towards eaves taking care not to damage old metal flashings that may need to be used as patterns for the fabrication of replacement flashings.

b. Broom roof surfaces and valleys to remove all debris before commencing underlayment application.

#### 2. Apply new underlayment felt/waterproofing membrane over exposed decking. Based on the use of a waterproofing membrane at eaves and valleys, and 15lbs. asphalt saturated felts as general underlayment.

a. Eaves Protection: Remove all dirt and dust from the deck. After applying a new metal drip edge along the eaves, apply the self-adhering waterproofing membrane underlayment directly to the bare wood deck.

Apply the membrane parallel with the eaves starting from the lower edge of the deck (overlapping the metal drip edge) then extend membrane up the deck to a line parallel with, and at least 24" past, the inside face of the exterior wall. Overlap sheets in a manner so as to shed water. All end laps to be a minimum of 6". Press all lap joints firmly with a roller to insure a waterproof installation. Stagger the end laps a minimum of 2 feet apart from course to course.

b. Valley Underlayment: Remove all dirt and dust from the deck surface at the valley. Apply the self-adhering waterproofing membrane underlayment to the bare wood deck. Starting at the bottom of the valley, apply the 36" wide (full-width) membrane up the center of the valley. Refer to par. E.2.b. below for the lapping and application requirements for the underlayment asphalt felts which intersect the valley.

c. General Underlayment: Apply over the remainder of the exposed roof deck a double layer of 15lb. asphalt-saturated (non-perforated) felt. Overlapping the eaves protection membrane 6", start with a 19" wide starter sheet applied parallel with the eaves. Then apply a full-width sheet over the starter sheet, again overlapping the eaves protection membrane 6". Succeeding sheets should be lapped 19" over the preceding sheet leaving a 17" exposure. Lay all felts parallel to eaves overlapping in a manner so as to shed water. End laps are to be a minimum of 6" and are to be staggered 6 feet apart from course to course. Felts are to be backnailed under the laps only as necessary to hold the felts in place until the shingle roofing material is applied. Laps (felt to felt) may be sealed with plastic asphalt cement as required. **Note:** *The lap where the felt overlaps the eaves waterproofing membrane is to be continuously sealed with a non-solvent based cement such as a silicone or acrylic sealant.*

#### 3. New shingle application. Based on the use of three-tab, square-butt shingles, applied so that all cutouts are centered over the tabs in the course below, the following guideline is provided:

a. Starter Course: Apply a row of either shingles or a 9-inch (or wider) starter strip of 90# mineral surfaced roll roofing along eaves extending 1/4 inch beyond the metal drip edge at both the eaves and rake. If self-sealing shingles are used for the started course, the exposed (tab) portion of the shingle and 3" off the end of the shingle should be removed. Set starter course in full bed of asphalt cement.

b. First Course: Should be started with a full-width shingle over the starter course so it extends (the same as the starter course below) beyond the metal drip edge at both the eaves and the rake 1/4 inch.

c. Second through Fourth Courses:

- The SECOND course should be started with a shingle from which 6" have been cut.
- The THIRD course should be started with a shingle from which the entire first tab has been cut.
- The FOURTH course should be started with a one-half shingle.

d. Repeat application cycle every fifth course starting with a full-width shingle.

e. **SPECIAL REQUIREMENT:** For steep slope roofs; i.e., where the roof pitch exceeds 45° or 12" per foot, secure each shingle with six (6) fasteners and apply a dab of shingle tab cement under each shingle tab at the time each shingle is installed. Upon installing each shingle, press down each shingle tab to disburse cement to secure to underlying shingle.

f. Apply shingles along ridge straight and uniform in "Boston Ridge" fashion, in accordance with shingle manufacturer's instructions where power ventilators exist. Cement ridge shingles to underlying shingles.

g. Install new replacement ridge ventilators, in lieu of a Boston Ridge, wherever ridge ventilators were previously installed. Recut wood deck at ridge ventilator locations wherever inadequate clear air passage space exists.

4. Place nails in strict accordance with shingle manufacturer's written instructions. Do not readjust shingle after placement of 2 nails--remove all nails, patch holes and reinstall shingle placing nail near, but not in, old nail holes.

#### D. VALLEY FLASHING:

1. Replacement of valley flashings is mandatory for "Tear-off and Replacement", but is only required for "Repair" and "Reroofing" where leakage occurs within a valley and/or in the judgment of the contractor replacement is warranted to extend the life of the total roofing system equal to the warranty life of the shingles (remaining warranty life in the case of repairs).

2. Where the previously applied valley underlayment is a self-adhering waterproofing membrane, substitute mineral-surfaced roll roofing in lieu of felts.

3. Valley Re-flashing Preparation: Valleys shall match type existing (open or closed) unless otherwise specified herewith. Roof valleys shall be prepared as follows:

a. If reroofing is required and the existing roof has an open valley, buildup the depressed valley area with 90# mineral surfaced roll roofing flush with adjoining roofing before installing new valley materials.

b. If total removal of existing roofing is required, remove existing valley flashing and underlayment to expose wood deck. Repair and/or replace any failed decking, then apply a 36" wide (full-width) self-adhering waterproofing membrane up the center of valley. Start membrane application at the bottom of valley and work upwards, overlapping membrane sheets 6" at lap joints. Trim horizontal courses of felt to overlap valley strip 6"--cement lapping felts entire length of valley using the non-solvent non-asphaltic cement. Complete open, woven or closed cut valleys as specified herein.

4. Open Valley Installations: Open valleys may be of either exposed mineral-surfaced roll roofing or sheet metal. Refer to par. 3. Valley Re-flashing Preparation: above.

a. Mineral-Surfaced Roll Roofing Valley: Apply 18" wide 90# mineral surfaced roll roofing (face side down) centered in valley and trimmed flush with eaves drip edge. Using only enough nails to hold the sheet smoothly in place, apply second layer of 90# mineral surfaced roll roofing 36" wide,(face side up) centered

in valley over first strip and trimmed at the eaves. Starting at eaves, lap each successive sheet 12" over so as to shed water; embed each lap in asphalt plastic cement.

b. Sheet Metal Valley: Using only enough nails to hold the sheet smoothly in place, apply a 36" wide layer of 15lb asphalt-saturated (non-perforated) felt over the previously applied underlayment; center on valley and trim at eaves. Starting at eaves, lap each successive sheet 12" over so as to shed water; embed each lap in asphalt plastic cement. Then install the 32" wide metal valley flashing by securing both sides to decking with metal receiver cleats placed 8" to 12" o.c.--do not nail directly into metal valley flashing. Starting at eaves, lap each successive piece 6" over so as to shed water. Trim at eaves.

c. Snap two chalk lines, for shingle termination, starting at the ridge 3" out from each side of valley center and diverging outward 1/8" per foot down valley to metal drip edge, then:

1) Measure and cut shingles to a chalk line. To prevent damage to the valley flashing, do not cut shingles after they are installed.

2) At each cut edge in the valley, trim an inch off upper corner of each shingle on a 45° angle to direct water into valley.

3) Spot cement each shingle to the valley flashing and to shingle below in a 4" bed of asphalt plastic roofing cement. Do not nail into metal valley flashing.

5. Closed Cut Valley Installations: Refer to par. 3. Valley Re-flashing Preparation: above. a. Using only enough nails to hold the sheet smoothly in place, apply a 36" wide layer of 15 lb. asphalt-saturated (non-perforated) felt over the previously applied underlayment; center on valley and trim at eaves. Refer to par. 4.b. Open Valley Installations: for lap joint requirements.

b. Apply shingles for closed cut valley as follows:

1) Apply first course along eaves of one intersecting roof plane and across valley extending up adjoining roof for a distance of no less than 12".

2) Apply succeeding courses in same manner as first course.

3) Pressing shingles firmly into valley, nail using normal shingle fastening methods, except that 1) no fasteners shall be placed within 6" of valley's center line, and 2) two fasteners shall be placed at the end of each shingle crossing the valley.

4) Apply shingles on adjoining roof plane (opposite side of valley) starting along eaves and crossing the valley onto the previously applied shingles. Snap chalk line no less than 2" back from valley center line and trim shingles to the line to ensure a neat installation.

5) Trim one inch on a 45° angle from upper corner of each shingle to direct water into valley.

6) Finally, embed each trimmed shingle end in a 4 inch wide strip of asphalt plastic cement.

6. Woven Valley Installations: Refer to par. 3. Valley Re-flashing Preparation: above.

a. Using only enough nails to hold the sheet smoothly in place, apply a 36" wide layer of 15 lb. asphalt-saturated (non-perforated) felt over the previously applied underlayment; center on valley and trim at eaves. Refer to par. 4.b. Open Valley Installations: for lap joint requirements.

b. Apply shingles for woven valley as follows:

- 1) Apply first course along eaves of roof area at the right-hand side up to and across valley extending up adjoining roof for a distance no less than 12”.
- 2) Then from the left-hand side apply first course along eaves of intersecting roof plane up to and across valley over top of shingles already crossing valley. Extend onto roof plane no less than 12" beyond the valley center.
- 3) Apply successive shingle courses alternately as described above, weaving the shingles into the valley and over the preceding shingle. Pressing shingles firmly into valley, nail using normal shingle fastening methods except, that: 1) no fasteners shall be placed within 6" of the valley center line, and 2) two fasteners shall be placed at the end of each shingle crossing the valley.

#### E. MISCELLANEOUS FLASHINGS:

1. Flashing against vertical sidewall:

- a. Step flashings shall remain--repair and replace as required to maintain flashing protection.
- b. Align top edge of new shingle against butt edge of existing.
- c. Trim new shingles to within 3/8 inch of the vertical face of any existing step flashing. Embed the last 4 inches of the end shingle of each course in asphalt plastic cement.
- d. Run a continuous caulk bead of cement between new shingle and sidewall flashing.

2. Install new preformed or reclaimed soil stack and vent pipe flashings when opening falls within new shingle. Set flashing in mastic and resume shingling. Cut shingles in successive courses to fit around pipe allowing 3/8 inch clearance between shingle cut and flashing. Embed shingles in asphalt plastic roofing cement. Lower flange of flashing shall overlap lower shingles. Seal flashing to stack or vent with urethane caulk.

3. Flashings around chimney and roof curbs:

- a. Where not already provided, construct new cricket (wood saddle) at high side (rear) of items projecting through roofs that are 20" or wider.
- b. Apply underlayment felt and shingles up to front edge before flashing.
- c. Where masonry is to be flashed apply a coat of asphalt primer to seal surfaces to provide adhesion of asphalt plastic cement.
- d. Install metal base flashing around all sides. Lower section to be embedded in cement, and to extend at least 4 inches horizontally over shingles and 12 inches vertically up surface.
- e. Install metal step flashing at sides. Secure to deck with nails and vertically with cement to masonry.
- f. Cut and bend flashing over cricket and to back of chimney/curb extending onto roof surface and up vertical faces at least 8 inches in both directions.
- g. Rake out mortar joints 1 1/2 inches, to receive metal cap flashing. Refill joint with portland cement mortar. Bend flashing down over base flashing and make weathertight within urethane sealant.

## F. GUTTER/DOWNSPOUT REPLACEMENT:

- a. Where existing gutters or downspouts are deficient; i.e., require more than minor repair or are missing altogether, replacement shall be provided as specified below.
- b. Half or quarter round gutters are required unless otherwise indicated by the owner.
- c. Half-round gutters must be installed with brackets or straps installed under the roof shingles and not directly mounted to any fascia board or rafter tail. All gutters shall be a minimum of .032 gauge, maintain a minimum slope of 1/2" per 10 running feet of gutter, and shall be attached approximately every 32" on center, or every other rafter tail, and shall be a minimum of 1/2" from the fascia board.  
  
Gutters longer than 40 feet should be sloped in two directions from the midpoint of the gutter and connected to a minimum of a 4" diameter downspout. All downspouts shall be a minimum of 024 gauge.
- d. Provide a precast or preformed spill block at every new downspout installation.

## VI. CLEANING AND PROJECT CLOSE-OUT

A. GENERAL: Article 2.5.4 of the General Specifications shall be supplemented as specified hereinafter.

B. SAFETY CLEANING: Safety cleaning: Each contractor is responsible for safety cleaning, which includes but is not limited to the following:

1. Keep work areas, passageways, ramps, stairs, free of debris and scrap.
2. Form and scrap lumber shall have nails withdrawn or bent over and lumber shall be stacked or removed.
3. Remove spills of oil, grease, or other liquids immediately or sprinkle with sand.

C. PROGRESS CLEANING:

1. Prime Contractor and subcontractor shall remove his rubbish and debris from building site promptly upon its accumulation, and prior to the contractor's regular end of the work day general clean up. Contractor shall perform broom cleaning of all appropriate surfaces at the end of each work day.
2. At the end of each working day, remove all portable tools, etc., which may constitute a potential hazard to the neighbors or an attractive nuisance
3. Combustible waste shall be stored in fire resistive containers and disposed of regularly.
4. Oily, flammable or hazardous wastes such as caustics, acids, harmful dusts, etc., shall be stored in appropriate covered containers.

D. DISPOSAL:

1. No burning of rubbish or debris will be allowed at site. No rubbish shall be thrown through opening or from heights without proper protection. Where dust will be generated or flying debris is likely to occur, provide dust tight chutes or other means to control dust.
2. Containers: Contractor shall provide mobile industrial type waste containers in the number and size required, placed at adequate locations to handle debris or provide other methods of disposing of debris.

3. Oil, flammable or hazardous wastes such as, but not limited to, caustics, acids, harmful dusts, etc., shall be placed in properly marked containers as necessary and disposed of at a site designed for such wastes.

**E. FINAL CLEANING:**

1. Immediately prior to substantial completion.

2. Contractors shall expedite or perform thorough cleaning, sweeping, washing and polishing of work to remove from work and equipment provided under his contract, all foreign matter, spots and soil, so as to put all such work and equipment, including finishes, in a complete and finished condition ready for acceptance and use intended.

3. The contractor is responsible for final sweeping and dusting not covered by other subcontractors. This general cleaning shall include all areas of the building site.

4. Make all repairs to landscaping and building components damaged in the performance of the reroofing work, including but not limited to: repairs or replacement of sod, trees, concrete, paving, building surfaces, incidentals or equipment attached to or detached from project. Use of plywood sheets and wood planking to prevent rutting of lawn is highly recommended.

**F. CHARGES:** If prime contractors do not remove rubbish or clean building as specified above, owner reserves right to have work done by others at contractor's expense.

**G. GUARANTEE.** As part at the final request for payment, Contractor shall submit to DCD the following Guarantee documents:

1. After completion of the work, the contractor shall present the guarantee as provided by the manufacturer of the roofing materials to DCD.

2. After completion of the work the contractor shall execute the two (2) year guarantee incorporated herein covering items of work other than the roof materials as covered by the manufacturer's guarantee.

## SPECIFIC SCOPE OF ROOFING WORK AT 3402 WEST ST. PAUL AVENUE

3402 West St. Paul Avenue is a historic home in the Merrill Park neighborhood of Milwaukee. The main roof of 3402 West St. Paul Avenue is an approximately 3700 square foot, multi-gable roof. There is an octagonal-roof turret at the southeast corner of the house. Half round gutters are required on this house. Gutters are 124 lf. and downspouts are 100 lf. What follows is a detailed scope for the work required to roof this property.

### Main Roof

- 1) Tear off all roofing material down to the original boards.
- 2) Inspect and replace rotted, damaged or missing boards using like-with-like dimensioned boards. The boards at the eaves are exposed along with the rafter tails. Like with like beaded boards are required to be replaced at these edges where the original boards are rotted.
- 3) Sheath the roof with OSB a minimum of 3/8" thick to create a continuous nailing surface.
- 4) To avoid interior water damage only tear off as much roof area as can be repaired and sheathed in the same day. No roof shall be left with open areas overnight. Any roof that has not had felt applied shall be securely tarped at the end of the work day.
- 5) Install 15 lb. (non-perforated) felt with 3" minimum overlap using T-50 3/8" staples.
- 6) Install 3 ft. wide "Ice and Water Shield" along all eave lines. On eaves extending out more than 3 feet add a second row of "Ice and Water Shield" with a 6" overlap.
- 7) Install gutter straps over ice shield evenly spaced approximately 32 inches on center, for use with new K Style gutters on the northeast and northwest eaves of the house.
- 8) For all roofing venting cut a 3" wide channel along the gable peak to within 2 feet of the roof edge for installation of a ridge vent. (NOTE: Pan vents are NOT permitted unless approved by the Owner's Representative or the staff of DCD.)
- 9) Install manufactured **Black** aluminum 1-1/4" drip edge along entire gable roof edge, and **Black** gutter apron with 1/4" shingle overlap at eave edge. Install using 1-1/4" galvanized roofing nails.
- 10) Install a full shingle starter strip along the base of the roof. Then install Architectural Shingles in Pewter Gray. The architectural shingles are to be nailed down using roofing nails. The size of the nail is determined by the thickness of the roofing material (typically 1-1/4"). Nail the shingles just below the tar strip using 4 nails per shingle, or in the thickest area of the shingle follow manufactures specifications.
  - a) Install the first architectural shingle 1/4 inch over the edge of the roof to force any water away from the fascia. It will also help prevent any fascia deterioration.
  - b) Next mismatch the shingle gaps by cutting different amounts of material from each piece of shingle before it is laid. For example; the first row should be left alone, the second row would be cut 5 inches, the third row 11 inches and on in 6-inch increments. This staggers the architectural shingles as they are installed so the gaps from each shingle to do overlap each other. Continue this process until the entire roof surface is covered, leaving the peak of the roof bare.
  - c) Install ridge cap of architectural shingles over the peak of the main roof. These shingles will require a 2" nail on each side to hold them in place.

11) All roof valleys shall be installed as open roof valleys using 26 gauge prefinished **Black** aluminum. Start by running a piece of ice and water shield 36" wide up the entire length of the valley and stapled against the wood, then run 15 # felt lapping past the valley 12"-18" on each side of the valley.

a) Using a metal valley with a "w" bend in the metal, to slow water from rushing under the shingles, run the metal valley piece up the valley starting at the bottom of the valley and work your way to the top. The metal valley needs to be black in color to compliment the color of the roof shingles.

b) Install the shingles past the valley center on one side of the flashing all the way up. Do not drive nails into the flashing. Then install shingles on the other side. Again, do not drive nails through flashing. Overlap shingles as you go, much like weaving.

c) Snap a chalk a line 3 inches from the center of the valley at the top of the valley and widen the gap by 1/8" per running foot on each side of the valley as it runs downward.

d) Place a piece of sheet metal under the shingles to make sure you will not damage the flashing. Use a utility knife with a hook blade to cut the shingles along the chalk line.

e) Snip off the corners of adjacent shingles (dub) to protect against water being channeled under shingles. Lift up shingles and use a hook blade to cut all the pointed unexposed ends. Make each cut about 2 inches from the point.

f) Caulk twice between shingles and flashing. Using roofing cement in a caulk tube, insert the tube's tip all the way under the shingles and run a continuous bead. Then hold the nozzle 2 inches back and apply a second bead nearer the edge. Then lift up each top shingle and apply roofing cement to adhere the shingles to each other. This is to seal out water and to attach the shingles because there are no nails.

### **Turret Roof**

The octagonal turret roof shall receive a complete shingle tear off. The roof will be completely covered with ice and water shield and shingled using cut shingles. No OSB or plywood is to be installed on the turret roof so the roof shape is maintained. All **shingles will be hand nailed** and not pneumatically nailed to ensure that they are driven into the wood substructure. Ridge shingles must follow the intersecting planes of the roof up to the peak.

Consult the Owner's Representative for instruction on how to lay the ridge shingles on the turret roof – the current layout is incorrect.

### **Gutters**

All new half round gutters must be installed at the main roof eave edges. Gutters will not be installed on the turret roof. Gutters must be installed for minimal interference with the exposure of the existing rafter tails.

Half-round gutters must be installed with brackets or straps installed under the roof shingles and not directly mounted to any fascia board or rafter tail. All gutters shall be a minimum of .032 gauge, maintain a minimum slope of 1/2" per 10 running feet of gutter, and shall be attached approximately every 32" on center, or every other rafter tail, and shall be a minimum of 1/2" from the fascia board.

Gutters longer than 40 feet should be sloped in two directions from the midpoint of the gutter and connected to a minimum of a 3" diameter downspout. All downspouts shall be a minimum of 024 gauge.

Go to this link to find out more about 1/2 round gutters vs. K style including price,

<http://www.guttersupply.com/p-halfround.gstml>

## **Chimneys and flashing**

All chimneys shall be temporarily waterproofed on all four sides, prior to the masons completing the installation of permanent base flashing, step flashing and counter flashing.

The roofers shall coordinate the construction of any chimney saddles with the Owner's Representative and Mason prior to doing any shingling around the chimneys.

GUARANTEE: (2 Years)

The following guarantee shall be executed by the Roofing Contractor and furnished to the Commissioner of DCD on completion of the roofing:

\_\_\_\_\_  
\_\_\_\_\_, 2011 Located:  
\_\_\_\_\_

Whereas, \_\_\_\_\_ Roofing Contractor, has furnished the labor and material required to apply roofing materials and sheet metal work on the roof located at \_\_\_\_\_ Street, Milwaukee, Wisconsin, and in consideration of the purchase of the roofing and metal work in accordance with contract terms, has agreed to issue a guarantee to the Commissioner of DCD.

Therefore, \_\_\_\_\_ agrees that for a period of two (2) years from the date thereof, \_\_\_\_\_ will at (his) (its) own expense make any repairs (excepting repairs of injury from any cause other than ordinary wear and tear by the elements) that may become necessary to maintain the roofing and flashing on the roof of \_\_\_\_\_, Milwaukee, Wisconsin, in a watertight condition and free from blistering and bleeding.

In Witness Where of \_\_\_\_\_

Contractor, has executed this guarantee.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Witnesses:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If the roofing contractor is a corporation, the guarantee shall be signed by two (2) authorized officers of the company.

**BID BOND**  
**CITY OF MILWAUKEE, WISCONSIN**  
LICENSED SURETY CORPORATION BID BOND

KNOW ALL MEN BY THESE PRESENTS, That we, .....

.....

of .....  
(Street and Number) (City) (State)

as principal and ..... of .....  
(Home Office)

as surety are held and firmly bound unto the City of Milwaukee, Wisconsin, hereinafter called City in  
the penal sum of .....

..... Dollars,

to be paid to the City: its successors and assigns, for which payment well and truly to be made, we bind ourselves, and our heirs,  
executors, and, administrators, or successors and assigns, as the case may be, jointly and severally, firmly by these presents.

WHEREAS, the above bounden principal is making a proposal in writing dated .....  
20 ....., to the Commissioner of City Development of the City, according to Official Notice No .....  
20 ....., of said Commissioner for furnishing all material, equipment, labor and everything necessary for the  
completion of the work of...

according to plans, specifications and the other contract documents on file in the office of said Commissioner, a copy  
of which proposal is by reference made a part hereof, and the said proposal is  
accompanied with this bond.

NOW, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden principal shall execute the  
contract in quadruplicate, in accordance with the proposal as accepted, with approved licensed surety corporation  
bound thereto for the faithful performance and proper fulfillment

of such contract, and return the same to the office of the said Commissioner within the time limit specified in said proposal, then the above obligation shall be void, otherwise it shall be and remain in full force and effect.

In witness whereof, the above bounden parties have executed this instrument under their several seals at Milwaukee, Wisconsin, this ..... day of ..... 20 ....., the name and corporate seal of each corporate party being hereto affixed and this instrument signed by its duly authorized representative.

Bidder Witnesses ..... **(Seal)**  
(Bidder)

.....  
By .....  
.....  
(Name and Title)

Surety Witnesses .....  
**(Surety)**

.....  
..... By .....  
.....  
(Attorney-in-Fact or Agent)

(Seal of Surety)

Name of Surety Contact Person \_\_\_\_\_ and Phone Number \_\_\_\_\_  
(Please Print)

**NOTE: The affidavit on the following page must be properly executed before this bond will be approved.**

**AFFIDAVIT**

**STATE OF WISCONSIN }  
MILWAUKEE COUNTY }**

SS

.....

being first duly sworn, on oath deposes and says that he is .....  
(Attorney-in-Fact or Agent)

of .....  
(Surety)

surety on the within bid bond executed by .....

Affiant further deposes and says that no city official or city employee of the City of Milwaukee has any interest, directly or indirectly in, or is receiving any premium, commission, fee or other thing of value on account of, the sale or furnishing of said bid bond.

.....

Subscribed and sworn to before me this

..... day of ..... 20 .....

.....  
Notary Public, Milwaukee County, Wisconsin

My commission expires .....

# PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_ (Name of Contractor)

\_\_\_\_\_ (Address of Contractor)

a \_\_\_\_\_, hereinafter called Principal,  
(Corporation, Partnership, or Individual)

and \_\_\_\_\_ (Name of Surety)

\_\_\_\_\_ (Address of Surety)

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_ (Name of Owner)

\_\_\_\_\_ (Address of Owner)

hereinafter called Owner, .in the penal sum of \_\_\_\_\_

\_\_\_\_\_ Dollars, \$ (\_\_\_\_\_)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, a copy of which is hereto attached and made a part hereof for the construction of:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and .if he shall satisfy all claims and demands incurred Under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise effect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in four (4) counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

(SEAL)

Principal

Witnesses

\_\_\_\_\_ By \_\_\_\_\_

\_\_\_\_\_ Title

Address

Surety

Surety Witnesses

Surety - Contract MAILING Address

\_\_\_\_\_ By \_\_\_\_\_

Attorney-in-Fact or Agent

(SEAL OF SURETY)

Name of Surety Contact Person \_\_\_\_\_ and Phone Number \_\_\_\_\_  
(Please Print)

NOTE: The affidavit on the following page must be properly executed before this bond will be approved. Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

**IMPORTANT:** Surety companies executing bonds must appear on the Treasury Department's most current list and be authorized to transact business in the State where the project is located.



# PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_ (Name of Contractor)

\_\_\_\_\_ (Address of Contractor)

a \_\_\_\_\_, hereinafter called Principal,  
(Corporation, Partnership, or Individual)

and \_\_\_\_\_ (Name of Surety)

\_\_\_\_\_ (Address of Surety)

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_ (Name of Owner)

\_\_\_\_\_ (Address of Owner)

hereinafter called Owner, in the penal sum of \_\_\_\_\_

\_\_\_\_\_ Dollars, \$ (\_\_\_\_\_)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, a copy of which is hereto attached and made a part hereof for the construction of:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred Under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise effect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in four (4) counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Principal (SEAL)

Witnesses

\_\_\_\_\_  
By \_\_\_\_\_

\_\_\_\_\_  
Title

\_\_\_\_\_  
Address

\_\_\_\_\_  
Surety

Surety Witnesses

\_\_\_\_\_  
Surety - Contract MAILING Address

\_\_\_\_\_  
By \_\_\_\_\_  
Attorney-in-Fact or Agent

(SEAL OF SURETY)

Name of Surety Contact Person \_\_\_\_\_ and Phone Number \_\_\_\_\_  
(Please Print)

NOTE: The affidavit on the following page must be properly executed before this bond will be approved. Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

**IMPORTANT:** Surety companies executing bonds must appear on the Treasury Department's most current list and be authorized to transact business in the State where the project is located.

**AFFIDAVIT**

(With Payment Bond)

STATE OF WISCONSIN )  
MILWAUKEE COUNTY )

\_\_\_\_\_, being first duly sworn,

on oath deposes and says that he/she is \_\_\_\_\_  
(attorney-in-fact

\_\_\_\_\_ of \_\_\_\_\_  
or agent) (Bonding Company)

and is duly authorized to sign for and on behalf of said company, surety on the attached contract, executed by \_\_\_\_

\_\_\_\_\_  
(Contractor)

Affiant further deposes and says that no city official, or city employee, of the City of Milwaukee has an), interest, directly or indirectly, or is receiving any premium, commission, fee, or other thing of value, on account of the sale or furnishing of this bond, undertaking or contract of indemnity, guaranty, or suretyship, in connection with the above-mentioned contract.

\_\_\_\_\_  
(Signature)

Subscribed and sworn to before me this  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public, Milwaukee Co. Wisconsin

My commission expires \_\_\_\_\_.